-8-

REMARKS

Claims 1-20 are pending in the application. Claims 1, 7, 13, 19, and 20 have been amended. Claim 21 has been added. Applicants respectfully request entry of the foregoing amendments to the specification prior to further examination. No new matter has been introduced. Acceptance is respectfully requested.

35 U.S.C. 101 Rejection

Claims 13-18 and 20, of which Claims 13 and 20 are independent, have been rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. As suggested by the Examiner in the instant Office Action on page 4, independent Claim 13 has been amended by changing "computer usable medium" to "tangible computer usable program product". Similarly, Claim 20 has been amended by changing "propagated medium" to "tangible computer usable propagated signal product". Thus, the claimed invention as now recited in claims 13 and 20 produces a useful output in satisfaction of 35 U.S.C. § 101.

As such, the Applicants respectfully request that the § 101 rejection of Claims 13 and 20 and their respective dependent claims 14-18 be withdrawn. Acceptance and reconsideration are respectfully requested.

35 U.S.C. 102 Rejection

Claims 1, 3-7, 9-13, and 15-20 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Badt et al. (U.S. Patent No. 6,542,868) ("Badt").

The present invention, in view of the foregoing amendments, provides more clearly a dialog management system that asynchronously manages the dialog between a user and a computer having an audio input device, a text input device, a visual output device, and an audio output device (see Specification page 22, lines 16-18). A prioritized queue retains responses generated by the computer in response to spoken input from the user asynchronously received by the computer through the audio input device. The spoken input is interpreted by a reasoning facility which enables the spoken input to include questions by the user. The reasoning facility also interprets the spoken input according to one or more of the multiple applications (see

-9-

Specification page 16, lines 7-13). A dialog manager places the generated responses in the prioritized queue. A turn manager manages audible rendering of the responses from the prioritized queue through the audio output device, prioritizes audible rendering of the responses according to predefined rules and corresponding contexts in a context priority queue. The user receives each response as part of an asynchronous (see Specification page 10, lines 16-21) dialog between the computer and the user. The dialog is conducted in a polite manner, subject to control by the user, allowing the user to interrupt and change subjects (see Specification page 5, lines 2-8).

Badt illustrates a technique whereby an audio notification management system uses a computer system having an audio-only interface to play a message to a user selecting one of a plurality of audio notifications. A priority level is set for each notification arriving into a queue and then inserted into the queue based upon the priority level of the notification such that notifications at the top of the queue have a higher priority than audio notifications at the queue bottom. A notification is selected based on the priority and a message corresponding to the selected notification is played to the user. The user is queried as to whether or not they want the notification played.

Badt does not teach or suggest the use of a text input device or a visual output device, allowing asynchronous input from multiple applications, allowing the user to change subjects, and a reasoning facility that enables the spoken input to include questions by the user, as recited in amended claim 1. Bandt, as discussed above, teaches the use of an audio-only input device and audio output device for playing notifications to the user. Further, Bandt's politeness feature is limited to whether or not to play back a notification and does not allow the user to interrupt the system to change subjects.

As such the rejection under § 102 is believed to be overcome. Withdrawal of this rejection is respectfully requested.

35 U.S.C. 103(a) Rejection

Claims 1-20 have been rejected under 35 U.S.C. 103(a) as being unpatentable over a Claassen (U.S. Patent No. 6,647,363), in view of Monaco et al. (U.S. Patent No. 6,314,402)

10/044,647

-10-

("Monaco"), in further view of Surace et al (U.S. Patent No. 6,334,103) ("Surace"), and in further view of Strubbe et al. (U.S. Patent No. 6,721,706) ("Strubbe").

Claassen provides a system for automatically responding to a user inquiry. The system includes an interconnection 20 for receiving a speech signal through a microphone from the user (column 6, lines 18-21) and an a speech output interconnection 80 to reproduce speech using a loudspeaker (column 7, lines 54-57). The dialog manager 50 receives the output from a speech recognition subsystem 40 (Fig. 1). The dialog manager 50 scans the output from the speech recognition subsystem 40 to extract key words or phrases indicating which information the user wishes to obtain. The dialog manager 50 then searches storage 52 (e.g., a database) for the key words or phrases. The presentation manager 90 receives the dialog manager's 50 search results and determines the users intentions motivating or associated with the search results (or extracted information). Based on its determination, the presentation manager 90 selects the presentation scenario, such as a template sentence or phrase, to present the extracted information. A speech generator 60 then verbally presents the extracted information to the user.

Monaco provides a method and apparatus for creating speech objects for use in an interactive voice response environment. Each speech object acquires a particular type of information from a speaker during an interaction between the speaker and a speech recognition mechanism. A speech object includes properties, such as prompts and grammars, associated with the corresponding type of interaction. Speech objects interact with the speaker through a speech channel 43 interface which is an object that provides access to the implementation of other interfaces providing speech recognition functionality (e.g., the main speech channel interface providing recognition and audio functions) (see Fig. 3). The speech channel interface provides methods for access to speech recognition functionality including recognition requests, prompt playback, and recording of the incoming audio. The speech channel prompt mechanism maintains a queue of prompts, added one at a time, and plays them back sequentially when a playback method is called. In this way, a prompt can be easily constructed from multiple pieces. The queue is emptied after the prompts are played.

Surace provides a voice user interface with personality. Prompts are selected from among various prompts based on various criteria (e.g., prompt history). Polite prompts may be selected such that the voice user interface behaves consistently with social and emotional norms.

-11-

Lengthened or shorten prompts may be selected based on a users experience with the voice user interface. In particular, Surace provides politeness rules based on Grice's maxims for politeness.

Strubbe describes a computer interface and method to simulate an awareness of the user for conducting and managing a conversation between the user and the computer. Generated responses are based on user activity as well as conversation content. The device also generate responses without being spoken to. For example, the system may play music even though the user has not instructed the system to do so.

As described above, base Claims 1, 7, 13, 19, and 20 have been amended to more clearly recite a dialog management system that asynchronously manages the dialog between a user and one or more speech enabled applications. The user can provide spoken input to a microphone and hear the response through speakers from one or more applications. The present invention also provided the ability to allow the user to provide text input using a text input device and to view the response on a visual output device from one or more applications. The politeness feature of the present invention provides the ability to ask the user whether or not to play a response and, in addition, always allows the user to change subjects or interrupt. A reasoning facility enables the spoken input to include questions from the user.

As described above, the present technique describes a dialog management system that asynchronously manages the dialog between a user and one or more speech enabled applications. The user can provide spoken input to a microphone and hear the response through speakers from one or more applications. The present invention also provided the ability to allow the user to provide text input using a text input device and to view the response on a visual output device from one or more applications. The politeness feature of the present invention provides the ability to ask the user whether or not to play a response and, in addition, always allows the user to change subjects or interrupt. A reasoning facility enables the spoken input to include questions from the user.

Base Claims 1, 7, 13, 19 and 20 have been amended to include these distinguishing features of Applicants' invention. As a result, Claassen, Monaco, Surace, and Strubbe alone or in any combination do not teach, suggest or otherwise make obvious each and every limitation of base Claims 1, 7, 13, 19 and 20. Therefore, Applicants respectfully request that the rejection of base Claims 1, 7, 13, 19 and 20 be withdrawn.

10/044,647

-12-

Since Claims 2-6, 8-12, and 14-18 depend from now amended base Claims 1, 7, and 13, respectively, Applicants respectfully request that the rejection of these dependent claims be withdrawn for at least the same reasons.

-13-

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims (Claims 1-21) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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